China: Food Security Concerns Affect Wheat Imports

by
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Abstract: In 1995, China began moving away from policies liberalizing grain markets to ones that reassert government control and encourage increased grain self-sufficiency. Wheat acreage, production, and stocks have risen because of the new policies, contributing to extremely low wheat imports in 1996/97. While these policies may continue to affect global trade in the nearterm, the policies are expensive and there are serious questions about whether they can be sustained in the long term.

Keywords: China, grain policy, wheat production, consumption, stocks, and trade

China's leaders are transforming their largely centrally planned economy into a "socialist market economy" with Chinese characteristics, such as using markets to guide producer and consumer decisions while the central government retains political control and uses macro-economic mechanisms to manage the economy. While markets and market forces have become increasingly important to China's rural economy, government intervention remains significant in agriculture. For wheat, government policies affect production, marketing, stockholding, consumption, and international trade.

While China has liberalized much of its economy—including agriculture—since the early 1980s, its food policy objectives have changed little over the past 40 years. They are to:

- insure adequate urban food supplies (food security),
- accumulate sufficient grain reserves,
- stabilize food prices,
- promote food self-sufficiency,
- participate in world trade, and
- improve farm income.

As with the food policy objectives of many countries, some of China's objectives are mutually exclusive or at least difficult to accomplish simultaneously. At various times over the past 40 years, the central government has emphasized the achievement of certain objectives while neglecting others. And changes in policies have sometimes had dramatic effects on China's wheat economy.

From the mid-1950s to the early 1980s, China's rural economy was organized into people's communes that controlled all aspects of rural life. Government-owned institutions managed the circulation of agricultural products from farm gate to consumers and the century-old open marketing system was closed. The government's Grain Bureau purchased, transported, stored, milled, and retailed grain, primarily to feed urban consumers.

Then, in the early 1980s, the government disbanded the commune system, allowed the old open marketing system to revive, and set up the household land contract system in which farm households were permitted to sign long term land contracts to cultivate specific plots. As long as farm households delivered specified quotas to local Grain Bureaus —thus paying their taxes and meeting government grain procurement requirements—the households were free to produce whatever they wanted and were permitted to sell their goods through local open markets.

The central government raised the purchase price of wheat to encourage farmers to produce more, but the Grain Bureau retail shops in the urban areas continued to sell flour at low prices that had largely remained constant since the early 1960s. By the late 1980s, China's government found that over 20 percent of total national government revenues was used to finance the gap between the purchase and retail price of grain.

Starting in 1992, the central government introduced market reforms to reduce the burden of the grain subsidies and to improve the economic efficiency of grain markets. By the end of 1993, these market reforms accelerated, as 28 out of 31 provinces began to phase out the grain ration system that

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allowed urban consumers to purchase grain at low fixed prices. Thus, to many observers it looked as if China would steadily pursue an economic course based on free markets and comparative advantage.

Three factors appear to have pushed China's leaders from 1994 to 1996 to reassert government control over grain markets, veer away from the principle of comparative advantage, and restrict market operations. First, inflationary pressures in late 1993-early 1994 and a sharp rise in rice and flour prices in 1994 undermined the government's resolve to carry out market reforms. In 1994 and 1995, anti-inflationary measures were instituted, including price controls. Price stability has always been important to China's central leaders, many of whom witnessed the devastation of hyperinflation at the end of World War II. When the objective of price stability came into conflict with the objective of raising farm incomes, China's leaders chose their traditional urban bias of pursuing price stability.

Second, while rural reforms brought relatively rapid increases in grain production in the 1980s, the rate of increase slowed in the 1990s and leaders became concerned about the decrease in the area sown to grains.

Third, in 1994 and 1995, analysts in and outside of China questioned the country's capacity to produce enough grain to meet growing consumption requirements. It is possible that these reports had a sobering effect on the central leaders, pushing them to limit market reforms and initiate the "governors' grain bag responsibility system," a policy designed to promote adequate supplies of domestic grain at provincial levels whenever possible.

Provincial Governments Exercise Control Through "Grain Bag" Policy

In early 1995, the central government initiated a new grain policy in which provincial governors were given responsibility of maintaining the "grain bag." The "grain bag" policies apply to all grain crops—especially to wheat, corn, and rice. Under this policy, governors are responsible for:

- stabilizing area sown to grains;
- guaranteeing investment in inputs like chemical fertilizer to stimulate grain production;
- guaranteeing that certain quantities of grain are put into stocks;
- insuring that transfers of grain in and out of a province are completed;
- stabilizing urban residents' concerns by supplying grains and edible oils;
- stabilizing grain and edible oil prices;
- controlling 70 to 80 percent of commercial grain sales;
- developing means to control grain markets;
- raising commercial sales as a share of grain sales;
- controlling grain imports and exports; and
- raising the level of grain self-sufficiency.

If the province is grain-deficit, the governor must first attempt to increase supplies by stabilizing or increasing the area sown to grain (keeping in mind the overall agricultural development goals, i.e., livestock, cash crops, forestry, etc.), increasing inputs to raise yields, and/or providing subsidies to grain producers.

Second, the province provides a list of the amounts and kinds of grains to be purchased domestically or imported. Third, the governor purchases domestic grain through wholesale markets or receives imported grain from the central government. If the province produces a grain surplus, the governor maintains surplus grain production to support grain sales to deficient provinces.

With regard to natural disasters, local resources should be used first to offset any grain losses. If the local government cannot handle the situation, the State Administration for Grain Reserves, which manages government-owned stocks, provides assistance. The central government chose this course of action to reduce its financial exposure. Thus, the financial responsibility for managing grain and edible oil supply and demand balances has been transferred from the central government to provincial levels.

To achieve these objectives, governors use their provincial Grain Bureaus, which perform both policy and commercial operations. Policy operations consist of purchasing grains (and oilseeds) at fixed quota prices (below market prices) and transporting, storing, milling, transferring, and retailing the grain. Losses incurred by the Grain Bureau while performing these operations are subsidized by the central government. For 1995, the central government planned to purchase 50 million tons of grain (wheat, rice, and corn) via this operation.

Under the old grain and edible oil rationing system—operated from 1953 to 1993—urban families were issued coupon books that entitled them to purchase fixed quantities of grain and edible oils at low fixed prices from government-operated grain stores.

In 1995, various provinces used different systems, such as grain books, grain coupons, or controlled markets, to help low-income families obtain low-priced grains in the government-owned grain stores. In making these purchases, low-income families do not have a lot of consumer choices—they buy whatever is on the shelf—and the grain in the government stores tends to be older and of lower quality than grain sold elsewhere. Higher-income urban residents shop in open markets where the grain is fresher and of higher quality (1).

"Grain Bag" Policy Aims At Self-Sufficiency

The "governors' grain bag responsibility system" has operated for less than 2 years, hence little information has been published with which to evaluate its success. However, general observations can be made on the policy's effect on China's grain economy.

First, the policy indicates the government's emphasis on self-sufficiency, on intervention and control of the grain economy, and a reassertion of old objectives to support urban constituents. In a like manner, it indicates a turning away from emphasis on comparative advantage in production decisions, economic efficiency, participation in world grain markets, and open domestic markets, and a return to the old policy of relative neglect of the agricultural economy.

Second, by using government administrative measures, local authorities were able to halt the downward trend of area sown to grains. Plantings for all grains in 1995 increased 516,000 hectares from 1994. Area sown to grain also increased in 1996.

Third, the policy encouraged local leaders to pay increased attention to grain production in 1995 and 1996, led to greater government investment in the grain economy, and saw total grain production rise from 445 million metric tons in 1994 to 467 million in 1995 and to a projected record 480 million in 1996/97.

Fourth, again by using administrative measures, government authorities were able to halt increases in grain prices and stabilize grain markets. Fifth, in 1995 and 1996 China's participation in international grain trade decreased. In marketing year 1994/95, China imported 18.78 million tons of grain (10.2 million of wheat) and exported 1.66 million. But in 1995/96, China imported 15.95 million tons (12 million of wheat) and exported 860,000 tons. In 1996/97 China is projected to import only 6.22 million tons (4 million tons of wheat) and export 1.6 million tons.

Wheat Acreage Expands In Response To New Policy

China reaped a record 109-million tons of wheat in 1996/97. Under the "grain bag responsibility system" provincial governors in fall 1995 used administrative and price mechanisms to encourage farmers to increase area sown to winter wheat. Farmers planted 2.3 percent more winter wheat in 1996 than in 1995. Yields increased from 3.54 metric tons per hectare in 1995 to 3.7 tons in 1996.

Production could rise again in 1997/98 because of increased area. China's State Statistical Bureau's winter planting surveys suggest that in fall and winter 1996 farmers intended to increase winter grain (mostly wheat) area 1.6 percent from the previous year. Farmers in south China who in the last few years left their land fallow to work in more lucrative jobs in towns and villages are now being encouraged to increase the area sown to winter wheat (2).

The state still purchases wheat from farmers. In an effort to encourage farmers to raise more wheat and to support increases in farm income, authorities raised the government's fixed quota price from US$131 in January 1995 to US$160 in June 1996.

Domestic market prices for wheat more than doubled from US$100 in January 1993 to US$ 211 in September 1996, but declined to $202 by December . The gap between the fixed quota price and the market price narrowed in fall 1993 and in July 1994. From July 1994 to spring 1996 there was a substantial US$30 to $80 gap between these two prices. But with the increase in the fixed quota price in spring 1996, the gap closed.

World prices (as represented by U.S. f.o.b. hard red winter, No. 2, Gulf ports) have been well below the domestic market price. The gap narrowed in spring 1996 and exceeded the domestic market price from March through June, when world wheat prices soared. However, by September, the U.S. export price was again well below China's domestic market prices for wheat and remained so through the end of 1996.

China's Wheat Consumption Stabilizing

A significant imbalance exists between urban and rural areas and between coastal and inland regions. Rural and inland poverty remain a serious concern to policy makers. Poverty alleviation programs are a priority for the central government and international lending agencies. The purchase and redistribution of food grains, mandated by the central government in part to alleviate the urban-rural, coastal-inland income and food imbalances, remain important components of China's agriculture policy.

China's wheat consumption rose rapidly between the mid-1970s and the mid-1980s because of population growth, rising incomes, and large government subsidies for urban wheat consumers. Total consumption more than doubled from an average of 44 million tons in the mid-1970s to 101.5 million tons by the mid-1980s, rising to a projected 113 million tons in 1996/97. At the same time, food consumption of other grains, such as barley and corn, declined. Per capita growth also expanded but leveled off in the late 1980s when urban consumers began diversifying their diets towards more vegetables, fruit, and meat products. However, rural wheat demand is still rising as the shift from coarse grain and potatoes to wheat consumption continues. Per capita wheat consumption in 1996/97 is estimated at 90 kg, compared to 90.9 kg in the United States and 50.7 kg in Japan.

Urban consumers are more quality conscious than rural residents who largely rely on domestic supplies. As urban incomes have grown and free markets developed, demand has increased for "special grade" flour that meets specific baking needs. Between 10 and 20 percent of China's wheat consumption now consists of "special grade" flour and the percentage is rising. As a result, mills are demanding higher quality wheat to produce this flour. Preference is for imported wheat because classes and grades of domestically produced wheat are usually not homogeneous, making it difficult for millers to produce a specific quality of flour.

State Stocks Increasing; On-farm Stocks Large

One of the big concerns in China in summer 1996 was whether the government managed grain purchase system would purchase the proper quantities from the record wheat crop. Authorities worried that if the central government failed to allocate sufficient funds to support wheat purchases or if the Grain Bureaus downgraded quality, offered lower prices, closed their doors to sellers, or issued IOUs to farmers, farmers would be less enthusiastic, less responsive to directives in planting wheat for the 1997 harvest. From available evidence it appears that at least for the wheat crop, Grain Bureaus were able to purchase the requisite quantity of wheat (we are not certain yet about the purchases for other crops). Because the 1996 crop was a record, purchases likely were greater than consumption, making it very likely that some of the crop ended up boosting wheat stocks that are owned and controlled by the government.

Vice Premier Zhu Rongji, in January 1997 made a rare comment on China's grain stock situation, noting that at yearend China's state grain reserves totaled a record 148.5 million tons, up 34.4 million tons from yearend 1995. In 1991 state grain reserves were reported to be around 120 million tons. While the sources of this information disclosed total grain stock numbers, they did not give a breakdown between wheat, rice, and corn, the primary grains held in state stocks. The increase in state-owned wheat stocks, which are primarily used to meet wheat consumption requirements in urban areas, probably was one reason wheat imports are expected to decline in 1996/97.

In China, some estimates indicate that 1995/96 wheat on-farm ending stocks may be much higher than the 23 million tons reported in USDA's World Agricultural Supply and Demand Estimates (3). Farmers hold wheat stocks for their own food security. They store grain as a hedge against crop failures, injury, sickness, disruption in transportation and market systems, and as a hedge against inflation. Farmers tend to meet their food security requirements first and then sell a portion of their wheat and are very hesitant in the present economic environment to reduce their wheat stocks as local wheat market prices rise. Our conclusion is that, for now, the very large wheat stocks in rural areas have little effect on urban wheat supply conditions and import demand (4).

China's Imports Plummet in 1996/97

China was the world's largest wheat importer in 1995/96 and while it will drop to around fifth place in 1996/97, it is and will continue to be a major source of uncertainty in global wheat trade. The uncertainty exists because the volume of wheat imported each years depends on China's government procurement, annual wheat production, stocks, domestic prices, and foreign trade policies.

China's wheat imports have fluctuated dramatically. Since 1987, China's annual imports have ranged from 4.3 million tons in 1993/94 to 15.9 million tons in 1991/92. In 1996/97 China is projected to import 4 million tons of wheat, one-third of the 1995/96 volume and the lowest since 1976/77. Since 1987, the equivalent of between 4 and 15 percent of China's wheat consumption has been imported each year, mostly to the urban centers on China's eastern seaboard.

China generally buys high-protein wheats from Canada and Australia to blend with its own and foreign soft wheat. While the United States is able to export five classes of wheat to meet China's diverse requirements, it has been a residual supplier. U.S. exports have been soft red winter and, to a lesser extent, hard red winter wheat. China intermittently buys wheat from Argentina and the EU when their prices are competitive with US wheat. As a result, the U.S. share of China's imports has been variable (5). Since 1987, it has ranged from 47 percent (in 1989/90) to 23 percent (in 1995/96). In 1996/97, the U.S. share could drop even lower.

While wheat imports enter China tariff free, phytosanitary regulations have been a barrier to certain classes of U.S. wheat. No U.S. wheat from the Pacific Northwest has been imported by China since the beginning of the 1970s and no U.S. white wheat from any source has been imported since 1981 because of concerns about the spread of Telletia Contraversa Kuhn (TCK), a winter wheat disease.

In spring 1996, Chinese officials indicated that TCK had been detected in U.S. shipments of wheat to China originating from Gulf ports. Reportedly, China canceled contracts for about 2 million tons of wheat on that basis and since then, China has not purchased any U.S. wheat. China claims that importing wheat with TCK would threaten domestic production.

However, the cancellations last spring coincided with reports that China's wheat crop would be close to a record and the need for imports would be far less than in 1995/96. And China has not bought any significant quantities of wheat from any major exporter in many months. Negotiations to resolve the TCK impasse are on-going between the United States and China.

China's Wheat Outlook for 2005

Up to 2005, China's wheat output is projected by USDA to increase at an annual rate of about 0.6 percent. While area is projected to fall 0.1 percent a year, yields likely will increase at a much faster pace of around 0.8 percent a year. China's seed breeders have developed several hybrid winter wheat varieties that are being field tested in major winter wheat producing provinces. In 1995, the Ministry of Agriculture field test results showed yield increases of 25 percent (6). Rapid economic growth rates, rising incomes, and changes in consumer preferences for quality wheat products, and a projected population growth of 100 million for the coming decade, will boost domestic demand above supply. Over the next 10 years, China's per capita food consumption is expected to level off. Rural per capita consumption wheat is expected to continue to rise, while urban per capita consumption is expected to decline as residents continue to diversify their diets.

USDA projections place China's wheat imports in 2005/06 at about 15 million tons, compared with an average of 9.8 million tons during the Eighth Five Year Plan (1991-95) (7).

Conclusions

The implementation of the "grain bag" responsibility system created conditions in China that helped lead to reduced wheat imports in 1996/97. The policy stimulated provincial governors to use financial and administrative means to push farmers to expand area sown to wheat. At the same time the governors used their political and administrative powers to insure that appropriate quantities of inputs were available to farm families to raise wheat. Wheat growers were blessed with favorable weather conditions and farm families reaped a record wheat crop.

Provincial governors insured that financial assets were available for their state owned Grain Bureaus to purchase wheat from farmers. Both on farm and state-owned stocks of wheat rose. The implementation of the "grain bag" policies meant that in 1996/97 China became more self-sufficient with regard to wheat production, consumption, and trade. Wheat imports for 1996/97 are forecast at 4 million tons, down substantially from 12 million in 1995/96.

This drive to increase self-sufficiency has been expensive. Considerable energy was expended by government administrative entities to implement the policy. Land that should have been planted with more competitive crops ended up in wheat, delaying China's transition to producing a mix of agricultural products in which it has a comparative advantage. Large sums of money are required to underwrite the grain storage system. Some of the wheat stored in both state and on-farm storage is damaged each year and is a deadweight loss in the system.

Sources

1. Crook, Frederick W., "December 1995 China Trip Report," FAS and ERS, USDA, Washington, DC, December, 1995.

2. China Daily, December 3, 1996, page. 2.

3. Ke Bing-sheng. "On-farm Grain Stocks in China and Its Impacts on Market Balance," paper presented at International Symposium on Food and Agriculture in China: Perspectives and Policies, October 6-8, 1996, Beijing, China.

4. Crook, Frederick W. "The Impact of China's Grain Reserve System on Import Demand," unpublished paper, USDA, ERS, September 1996.

5. Crook, Frederick, William Lin, and Hunter Colby. "Determinants of Wheat Import Demand," ERS, USDA, Washington, D. C., Staff Analysis Report No. AGES 9329, December 1993.

6. "Hybrid wheat to increase harvest," China Daily, June 1, 1996, p. 2.

7. *Agricultural Baseline Projections to 2005, Reflecting the 1996 Farm Act*. Interagency Agricultural Projections Committee, World Agricultural Outlook Board, U.S. Department of Agriculture, Staff Report WAOB-97-1, February, 1997.